Name:_____

Built for the Cold: Animal Adaptations

When the temperature drops and snowflakes begin to dance in the wind, humans reach for heavy parkas, wool mittens, and insulated boots. Wild animals, however, cannot go to a store to buy winter gear. Instead, they rely on adaptations. An adaptation is a specific physical trait or a behavioral habit that helps an animal survive in its environment. While some animals flee the cold (migration) or sleep through it (hibernation), those that stay active must be "engineered" for the ice.

The Magic of Molting

For many mammals, the first sign of winter is a change in their fur. As the days grow shorter, the brain sends a signal to the animal's body to prepare. Animals like white-tailed deer and red foxes grow a much thicker "undercoat." This layer of fine, dense hair traps warm air close to their skin, acting like high-tech insulation.

Some animals take it a step further and change their color entirely! The snowshoe hare is a famous example. In the summer, its fur is a dusty brown to match the forest floor. As winter approaches, the hare sheds its brown coat and grows a new one that is pure white. This is a survival tactic called camouflage. By blending in with the snow, the hare becomes nearly invisible to hungry lynxes.

Built-in Snowshoes

Physical adaptations also help animals move through deep snow without wasting precious energy. The lynx, a large wild cat, has incredibly wide paws with thick fur on the bottom. These paws act like natural snowshoes. They spread the cat's weight across a larger area, allowing it to stay on top of the snow crust rather than sinking in up to its belly. Without these "heavy-duty" paws, the lynx would be too slow to catch its dinner in the deep drifts.

The Secret World Under the Snow

While the wind howls above the surface, a secret world exists beneath the snow. Small rodents like meadow voles and shrews live in the subnivean zone. This is the small space between the frozen ground and the bottom of the snowpack.

The snow acts like a giant blanket. Even if the air temperature above the snow is -20°C, the air in the subnivean zone stays right around 0°C. This narrow "basement" allows tiny animals to stay active all winter long, tunneling through the dead grass to find seeds and roots without being seen by owls or hawks circling above.

Name:_____

1. Which sentence best expresses the main idea of the entire passage?

A. Animals in the subnivean zone are safer from owls than animals on the surface.

B. Adaptations are special traits and behaviors that allow animals to live through winter.

C. The snowshoe hare is the only animal that changes its color to hide from predators.

D. Humans and animals use the same methods to stay warm when it snows.

2. Read this sentence from the passage: "The snowshoe hare sheds its brown coat and grows a new one that is pure white." Which meaning of the word "sheds" is used in this sentence?

A. Small wooden buildings used for storing lawnmowers.

B. To lose a natural outer covering, such as hair or skin.

C. To bounce off a surface, like water off a raincoat.

D. To shine a light on something to make it clearer.

3. Based on the passage, what can you infer would happen if a lynx had small, narrow paws?

A. It would be able to run faster on the ice.

B. It would likely struggle to hunt because it would sink into the deep snow.

C. It would move into the subnivean zone to find food.

D. It would grow white fur to match the snowshoe hare.

4. What is the author's primary purpose for including the section on the subnivean zone?

A. To persuade the reader that snow is dangerous for small animals.

B. To inform the reader about a hidden habitat that provides warmth and safety.

C. To entertain the reader with a story about a vole living in a tunnel.

D. To explain why owls have a hard time finding food in the summer.

9. What conclusion can you draw about the importance of daylight for these animals?

A. Animals need more sunlight to keep their bodies from freezing.

B. The change in the length of the day tells an animal's body when to start its winter adaptations.

C. Animals prefer shorter days because they can hide in the dark.

D. Sunlight makes the subnivean zone get too hot for the rodents.